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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,109	03/06/2002	John M. Twomey	ITL.0714US (P14147)	7915

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EXAMINER	
PATEL, JAY P	
ART UNIT	PAPER NUMBER
2619	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/092,109	TWOMEY ET AL.	
	Examiner	Art Unit	
	JAY P. PATEL	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,6-16,18-25 and 28-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,6-16,18-25 and 28-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 6-9, 14, 24-25 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Manchester et al. (US Patent 6628657 B1) in view of Valencia (US Patent 6650652 B1) further in view of Woodward Jr. et. al. (US Patent 7023882 B2).

3. In regards to claim 1, Manchester et al. show in figure 7, ATM traffic being carried in a TDM subscriber bus frame 100. The frame showed in figure 7 is carried over TSB Bus 70 in figure 3 and processed in a fused TDM/ATM switch card 60; furthermore, the TDM bus 70 is used to transport voice traffic (receiving voice data from a TDM stream and processing said data in a TDM processor) (see column 8, lines 6-10).

In further regards to claim 1, each ATM cell 150 is transported in a single TSB frame 100 (filling a frame with voice data formatted as AAL packets from said stream).

In further regards to claim 1, Manchester et al. fail to teach, determining whether a refresh value associated with said processor matches a refresh value associated with said frame. Valencia however, teaches the above-mentioned limitation if figure 3B where a memory unit 324 keeps track of the number of active voice connections (column 8, lines 9-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the memory functions taught by Valencia in to the exchange memory 352 of fused TDM/ATM switch card 60 from Manchester et al. The motivation to do so would be enable the TDM/ATM switch card to keep track of active connections for fragmentation purposes.

In further regards to claim 1, Manchester and Valencia fail to teach setting the frame value equal to the processor refresh value if the values do not match. Woodward however teaches the above-mentioned limitation in figure 5 where, a MPEG video counter is synchronized with a MAC counter 224 (see column 11, lines 61-63).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the frame synchronization as taught by Woodward into the teachings of Manchester and Valencia. The motivation to do so would be use synchronization to maintain delay constraints when multiple information streams are combined (see column 2, lines 17-19).

In regards to claim 6, figure 5 from Manchester et al. shows transport of DS-0 traffic in a TSB frame.

In regards to claim 7, figure 7 in Manchester et al. shows ATM traffic being carried in a TDM subscriber bus frame 100.

In regards to claim 8, figure 7 shows multiple TSB channels 120.

In regards to claim 9, figure 7 also reads on determining whether the frame is full because each ATM cell 150 is transported in a single TSB frame.

In regards to claim 14, TDM/ATM switch card 60 has multipurpose ATM switch.

4. In regards to claim 24, Manchester et al. show in figure 7, ATM traffic being carried in a TDM subscriber bus frame 100. The frame showed in figure 7 is carried over TSB Bus 70 in figure 3 and processed in a fused TDM/ATM switch card 60; furthermore, the TDM bus 70 is used to transport voice traffic (see column 8, lines 6-10).

In further regards to claim 24, each ATM cell 150 is transported in a single TSB frame 100 (filling a frame with voice data formatted as AAL packets from said stream).

In further regards to claim 24, Manchester et al. fail to teach, determining whether a refresh value associated with said processor matches a refresh value associated with said frame. Valencia however, teaches the above-mentioned limitation if figure 3B where a memory unit 324 keeps track of the number of active voice connections (column 8, lines 9-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the memory functions taught by Valencia in to the exchange memory 352 of fused TDM/ATM switch card 60 from Manchester et al. The motivation to do so would be enable the TDM/ATM switch card to keep track of active connections for fragmentation purposes.

In further regards to claim 24, Manchester and Valencia fail to teach setting the frame value equal to the processor refresh value if the values do not match. Woodward however teaches the above-mentioned limitation in figure 5 where, a MPEG video counter is synchronized with a MAC counter 224 (see column 11, lines 61-63).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the frame synchronization as taught by Woodward into the teachings of Manchester and Valencia. The motivation to do so would be use synchronization to maintain delay constraints when multiple information streams are combined (see column 2, lines 17-19).

In regards to claim 25, Manchester et al. teach a bus fuser 350 and exchange memory 352.

In regards to claim 28, figure 5 from Manchester et al. shows transport of DS-0 traffic in a TSB frame.

In regards to claim 29, figure 7 in Manchester et al. shows ATM traffic being carried in a TDM subscriber bus frame 100.

In regards to claim 30, figure 3 in Manchester et al. has a fused TDM/ATM switch card 60.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Manchester et al. (US Patent 6628657 B1) in view of Valencia (US Patent 6650652 B1) in view of Woodward Jr. et. al. (US Patent 7023882 B2) further in view of Hosein (US Patent 6728272 B1).

In regards to claim 10, Manchester, Valencia and Woodward, teach all the limitations of parent claims 1 and 9. However, Manchester, Valencia and Woodward fail to teach determining whether a timer has expired. Hosein teaches the above-

mentioned limitation. In figure 1, communication devices 100 and 150 communicate using the HDLC protocol. Using a T1 frame, if no data is present for 125 microseconds, the corresponding T1 frame will contain 24 frame delimiters (see column 4, lines 39-48). The 125 microseconds period reads on determining whether a timer has expired during the filling of the frame.

Therefore it would have been obvious to one skilled in the art at the time the invention was made to combine the 125 microsecond timer window disclosed by Hosein into the teachings of Manchester, Valencia and Woodward. The motivation to combine would be to implement a timing window upon whose expiration the system can use another frame to fill subsequent data.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Manchester et al. (US Patent 6628657 B1) in view of Valencia (US Patent 6650652 B1) in view of Woodward Jr. et. al. (US Patent 7023882 B2) further in view of Stacey et al. (US Patent 7020141 B1).

In regards to claim 11, Manchester, Valencia and Woodward, teach all the limitations of parent claims 1 and 9. However, Manchester, Valencia and Woodward fail to teach whether data has been received with a connection ID that matches the connection ID of the data already stored. Stacey teaches that a VCC identifier can be used to look up ATM cell layer port queue identifier (see column 7, lines 33-37). Therefore, determining whether data has been received with a connection ID that

matches the connection ID of data already stored reads on mapping to the VCC identifier with an ATM cell layer port queue identifier.

Therefore it would have been obvious to one skilled in the art at the time the invention was made to combine the mapping of the VCC connection ID with the ATM cell layer port queue ID as taught by Stacey into the teachings of Manchester, Valencia and Woodward. The motivation to combine would to identify and match the connection with a proper space allocated to the connection in memory.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Manchester et al. (US Patent 6628657 B1) in view of Valencia (US Patent 6650652 B1) in view of Woodward Jr. et. al. (US Patent 7023882 B2) further in view of Stacey et al. (US Patent 7020141 B1) further in view Dove et al. (7006497 B2).

In regards to claim 12, Manchester, Valencia and Woodward, teach all the limitations of parent claims 1 and 9 and further in combination with Stacey, teach the limitation of parent claim 11. However, none of the above-mentioned references teach a connection ID identifying a TDM channel. In figure 3C Dove shows a VCI field 32. The VCI field for TDM packets acts as a connection identifier (see column 7, lines 37-46). Therefore, the VCI 32 reads on using the connection ID in each unit to identify a time division multiplex channel of a voice call.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Dove into the teachings of Manchester, Valencia, Woodward and Stacey. The motivation to combine would to

identify and match the connection with a proper space allocated to the connection in memory.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Manchester et al. (US Patent 6628657 B1) in view of Valencia (US Patent 6650652 B1) in view of Woodward Jr. et. al. (US Patent 7023882 B2) further in view of Stacey et al. (US Patent 7020141 B1) further in view Dove et al. (7006497 B2) further in view of Dove et al. (US Patent 7050428 B1) (here in referred to as Dove B).

In regards to claim 13, Cantwell, Manchester, Valencia, Woodward, Stacey and Dove fail to teach setting a pointer for a TDM channel to the address of a payload in a unit. Dove B teaches that a source pointer in provided within the TSI 64 in figure 7 to address the memory for the time slots for writing operations to a stack plane. Therefore, the source pointer within the TSI 64 reads on a pointer for a TDM channel to the address of a payload in a unit.

Therefore it would have been obvious to one skilled in the art at the time the invention was made to combine the ATM cell layer port queue ID with the source pointer provided by Dove B into the teachings of Manchester, Valencia, Woodward, Stacey and Dove. The motivation to combine would be to provide a more efficient way to address data within a memory without actually using up any space within the memory for addressing.

9. Claims 15-16, 18-19 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantwell et al. (US Patent 6493346 B1) in view of Valencia (US Patent 6650652 B1) further in view of Woodward Jr. et al. (US Patent 7023882 B2).

10. In regards to claim 15, The TDM matrix 26 and the frame relay circuit 24 in figure 1 in Cantwell, reads on a processor.

A TDM frame database, to store pre-formatted frames is anticipated by the frame the frame relay access devices 28. The frame relay access device 28 is interconnected to a local area network, or host link 32 and converts Internet protocol, and system network architecture data to and from frame relay data. The conversion is inclusive of adding data link connection identifiers address; frame check sequence and other frame overhead (see column 2, lines 53-58).

The TDM matrix 26 also anticipates the processor-accessing frame from said frame database to fill the frames with voice data. The TDM matrix 26 is connected to the frame relay access devices 28 and communicates with these devices over T1 or E1 links 30 (see column 2, lines 49-52).

In further regards to claim 15, Cantwell fails to teach determining whether a refresh value associated with said processor matches a refresh value associated with said frame. Valencia however, teaches the above-mentioned limitation if figure 3B where a memory unit 324 keeps track of the number of active voice connections (column 8, lines 9-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the memory functions taught by Valencia in

into the teachings of Cantwell. The motivation to do so would be enable the TDM/ATM switch card to keep track of active connections for fragmentation purposes.

In further regards to claim 15, Cantwell and Valencia fail to teach setting the frame value equal to the processor refresh value if the values do not match. Woodward however teaches the above-mentioned limitation in figure 5 where, a MPEG video counter is synchronized with a MAC counter 224 (see column 11, lines 61-63).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the frame synchronization as taught by Woodward into the teachings of Cantwell and Valencia. The motivation to do so would be use synchronization to maintain delay constraints when multiple information streams are combined (see column 2, lines 17-19).

In regards to claim 16, the TDM matrix 26 anticipates the TDM processor. Furthermore, the FRAD 28 is connected to the host over link 32 and FRAD 28 converts data to frame relay data (see column 2, lines 52-55). The FRAD 28 is connected to TDM matrix 26 via link 30. Therefore, the processor accessing the frame form the pre-formatted frame database to fill the frames with voce data from time division multiplex channels is anticipated by FRAD 28 being connected to the TDM matrix 26.

In regards to claim 18, the frame relay engine 98 within the frame relay circuit 24 (see figure 4) anticipates the processor reading data from each active channel and writing data into frames. The frame relay engine 98 converts PDUs to frame relay packets (see column 4, lines 18-23).

In regards to claim 19, the frame relay engine 98 performs conversions and writes converted data via PCI bus 96 to SAR (necessary for ATM switch) block 92 (see column 4, lines 18-23). Therefore, the frame relay engine and the conversion to SAR block 92 anticipates data in frame being divided into units which correspond to asynchronous transfer mode packets.

In regards to claim 21 and 22, filling the frame with voice data from an asynchronous transfer mode adaptation layer packet, is anticipated by ATM relay switch 36 in figure 1 of Cantwell. The ATM relay switch also anticipates an ATM processor. The ATM relay switch 36 transmits ATM data over link 38 to a frame relay network such as a DS1 trunk (see column 2, lines 64-66).

In regards to claim 23, the frame relay circuit 24 in figure 1 of Cantwell and the TDM matrix 26 in figure 1 are coupled to the ATM switch 36 via link 34. Therefore the link 34 reads on the coupling of the TDM processor with the ATM processor.

11. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cantwell et al. (US Patent 6493346 B1) and Valencia (US Patent 6650652 B1) in view of Woodward Jr. et. al. (US Patent 7023882 B2) in view of Knappe (US Patent 6922396 B1).

In regards to claim 20, Cantwell in combination with Valencia and Woodward teaches all the limitations of parent claims 15, 18 and 19. Neither Cantwell nor Valencia in particular teaches the processor sending the frame to a queue after it has been filled.

Knappe teaches the above-mentioned limitation. In figure 3, Knappe discloses a routing device 80 inclusive of a processor, which, assists in sending a packet from a receiving port to a corresponding queue of the sending port (see column 10, lines 8-10).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the routing device disclosed by Knappe into the teachings of Cantwell, Valencia and Woodward. The motivation to combine would to provide an easy transition of a frame from a receiving to a sending port.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAY P. PATEL whose telephone number is (571)272-3086. The examiner can normally be reached on M-F 9:00 am - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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